

TWO ADDITIONAL SPECIES OF ROBBER FLIES OF THE GENUS
OMMATIUS WIEDEMANN (DIPTERA: ASILIDAE) FROM THE BAHAMAS
AND WITH REPLACEMENT NAMES FOR TWO OTHER SPECIES

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Abstract.—Two species of robber flies of the genus *Ommatius* Wiedemann are reported from the Bahamas, increasing the number of species to six. *Ommatius mariae*, n. sp., from Eleuthera and Nassau, is described, illustrated, and contrasted with *O. hanebrinki* Scarbrough and Rutkauskas. *Ommatius mariae*, *O. hanebrinki*, and *O. hispidus* Scarbrough from the *hanebrinki* species group. A Cuban species, *O. lineolatus* Scarbrough is reported for the first time from Long Island in the Bahamas. Two new replacement names are proposed: *Ommatius dignus* new name for *Ommatius dimidiatus* Scarbrough and *Ommatius fimbriatus* new name for *Ommatius fimbriatus* Scarbrough and Poinar.

Key Words: nomenclature, Asilidae, *Ommatius*, new species, new records, Bahamas

The robber flies of the genus *Ommatius* Wiedemann from the Bahama Islands are poorly known. To date four species are reported from single localities, i.e., *O. abana* Curran (1953) from Bimini, *O. hanebrinki* Scarbrough and Rutkauskas (1983) from San Salvador, *O. membranous* Scarbrough (1985a) from Rum Cay, and *setiferous* Scarbrough (1988) from Mayaguana. Furthermore, only one sex is known for all species except for *O. hanebrinki*. This paper reports a new species of *Ommatius* Wiedemann from Eleuthera and Nassau, and the discovery of a Cuban species, *O. lineolatus* Scarbrough (1988), from Long Island. Two replacement names are proposed to correct nomenclatural errors.

METHODS

General methods and terminology follow that described by Scarbrough (1997) and McAlpine (1981), respectively. Ratios used in the text are as follows: face:head width

ratio (FHWR) is the greatest width of the head in front profile divided by the width of the face at the base of the antennae; cell m1 width ratio (mlWR) is the ratio of the width of the cell at the basal third and apical two-thirds divided by the width of the base; hind femoral width:length ratio (HFWR) is the greatest dorsal length divided by the greatest width.

Acronyms of museums used in the text are as follows: TUMZ, Museum of Zoology, Towson University, Baltimore, MD; AMNH, American Museum of Natural History, NY; CMNH, Carnegie Museum of Natural History, Pittsburgh, PA; USNM, National Museum of Natural History, Smithsonian Institution, Washington, DC; FSCA, Florida State Collection of Arthropods, Gainesville, FL; GPAC, George Poinar Collection of Amber, Department of Entomology, Oregon State University, Corvallis, OR.

Ommatius mariae Scarbrough,
new species
(Figs. 1–9)

Male.—Brown. Body 11.1–12.3 mm; wing 8.3–8.6 mm. *Head*: Dull yellowish gray tomentose; frons, vertex, and narrow margin of occiput dorsally more yellow; vestiture largely whitish to pale yellow; FHWR 1.0:6.3–1.0:6.9. Antenna mostly brown setose, whitish setae present below scape; flagellum broadly oval, slightly longer than wide, and slightly longer than scape. Frons with margins parallel. Occiput with 3–5 short, thick, brown postocular bristles; bristles slightly curved forward, apices of bristles above eye.

Thorax: Pronotum yellowish gray tomentose with 2 brown and 2 whitish bristles. Mesonotum with wide median stripe divided medially by a thin, light yellowish tomentose line; 2 lateral spots brown tomentose spots present; tomentum otherwise yellow to yellowish gray; setae sparse, limited to lateral margins; 3 posterior dorsocentral and 4 lateral stout, dark brown bristles. Scutellum yellowish tomentose with scattered whitish setae; 2 short, brown, marginal setae sometimes present, each about half as long as dorsal setae; preapical groove absent. Pleura dull yellowish gray tomentose anteriorly, more grayish posteriorly; vestiture whitish; halter yellow.

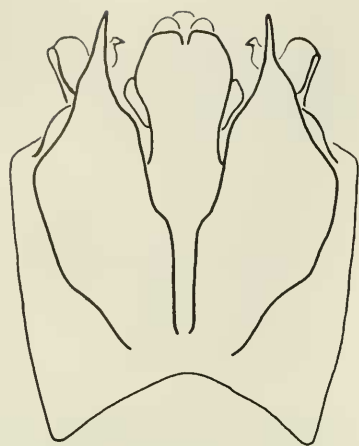
Wing: Margin anteriorly straight, without a costal bulge. Cell r4 narrow and long, sides only slightly divergent apically; base before apex of cell d. Crossvein r-m just beyond middle of cell d, slightly shorter than or as long as vein CuA1+M3. Cell m1 WR 1.0:1.9:1.4-1.0:2.7:2.1.

Legs: Coxae brown with grayish tomentum and pale yellow to white vestiture; fore coxa with numerous stout bristles anteriorly. Trochanters brown. Femora mostly yellow with yellowish bristles; fore femur mostly brown anteriorly with a narrow yellow band at apical third, and narrow apex dorsally and posteriorly brown; middle femur with apical half to two-thirds anteriorly

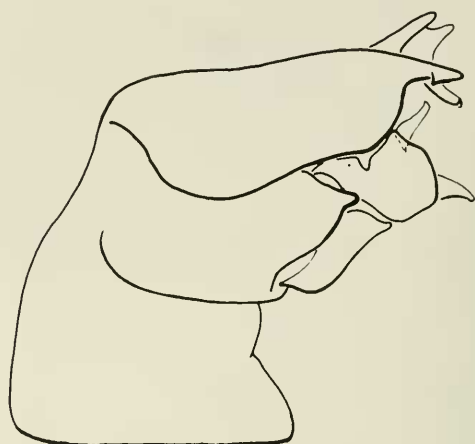
and apical fourth posteriorly brown; hind femur with apical half to two-thirds anteriorly and posteriorly and apical third to half dorsally and ventrally brown. Middle femur with 2 anterior, 2 anteroventral, and 1 preapical, dorsoposterior bristles. Hind femur with 3 anterior and 5 anteroventral bristles, all long and yellowish, most stout; anteroventral bristles at middle two-thirds; 1 posteroventral bristle basally plus 6 bristles on a raised posterior tubercle at middle of hind femur; all posteroventral bristles quite thick from base to apex, only slightly flattened with round apices, most or all brown; HFWLR 1/2.8–1/3.0. Tibiae mostly yellow with yellowish bristles laterally and brown bristles apically; narrow apices and anterior surfaces of all tibiae brown; fore tibia with only narrow brown stripe anteriorly. Hind tibia short, two-thirds as long as hind femora and four-fifths as long as hind tarsus; thick, constricted preapically, apex abruptly wide, clublike. Basal tarsomere of fore and mid tarsi yellow with narrow apex brown; basal tarsomere of hind tarsus yellowish basally grading to brownish yellow apically; apical 4 tarsomeres of all tarsi brown; fore and middle tarsi with 5 and 4 yellow bristles respectively; hind tarsus with 2 yellow bristles.

Abdomen: Yellow brown basally, brown apically; mostly yellowish gray tomentum and yellowish setae present; terga brown tomentose with brown setae dorsally.

Terminalia (Figs. 1–5): Epandrium with a short, asymmetrical, apical hook; apical third with abundant short, bristly setae. Ventral lamella with a short, sclerotized, preapical, tongue-like process, sides slightly curved downward; dense, long, yellow setae present. Gonostylus with prominent wide base and a short, narrow dorsal process. Aedeagus with broad hooded sheath, distiphallus strongly arched downward with only apex exposed. Gonocoxite with long, thin, erect flanges, one along inner margin and another more lateral a long, horizontal process with pointed apex present. Hypan-



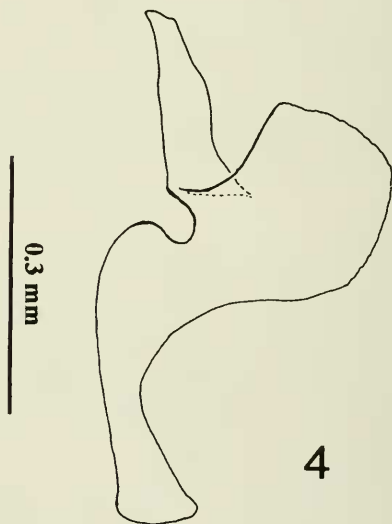
1 0.5 mm



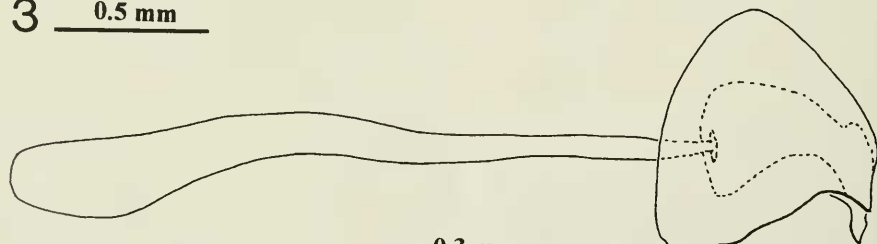
2 0.5 mm



3 0.5 mm

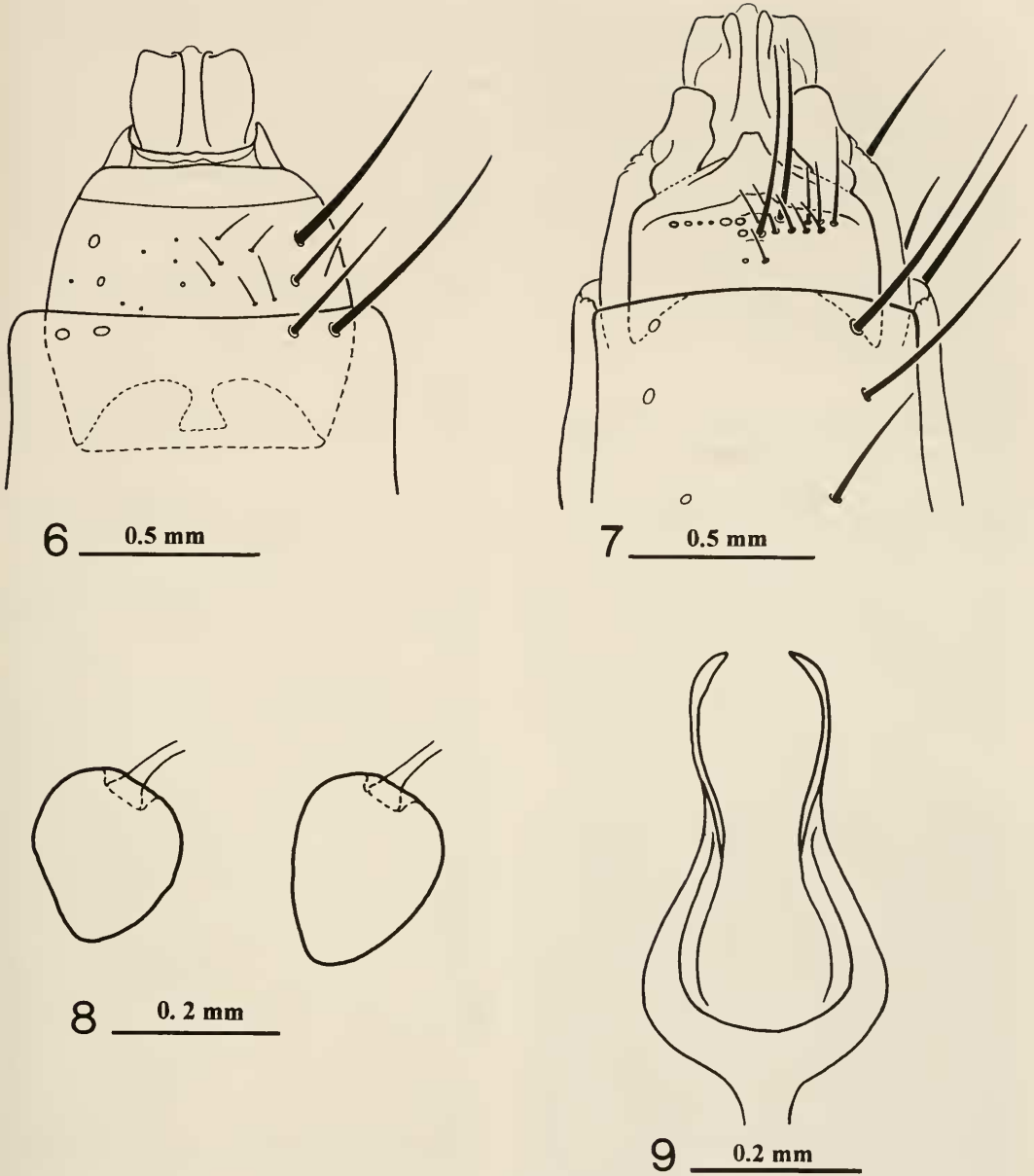


4



5 0.3 mm

Figs. 1-5. *Ommatius mariae*, male terminalia. 1, Dorsal view. 2, Lateral view. 3, Ventral view. 4, Gonostylus. 5, Aedeagus, lateral view.



Figs. 6-9. *Ommatius mariae*, female terminalia. 6, Dorsal view. 7, Ventral view. 8, Spermatheca. 9, Genital fork.

drium strongly produced apically, apical margin subtruncate, with rounded corners.

Female.—As male, differing as follows: Body 13.6 mm; wing 10.0 mm; FHWR 1/6.9; cell m1 WR 1.0:2.1:1.4; HFWLR 1/5.6. **Head:** Face with 2 brownish yellow to brownish bristles. Occiput with 1-2 brown

postocular bristles. **Thorax:** Tomentum largely dull yellowish. **Wing:** Crossvein r-m longer than vein CuA1+M3. Base of cell r4 at apex of cell d. **Legs:** Fore coxa with several, long, thin bristles. Middle and hind femora black on apical half or slightly less and with all or most anterior bristles black.

Hind femur slender, not especially swollen, without a mound-like tubercle, and bristles acutely pointed; all ventral bristles yellow and distributed in well defined rows. Tibiae with narrow apex and anterior surface black; hind tibia black except yellow on basal half anteriorly. Hind tibia slender, only gradually wider apically, apex not unusually wide or flat. Tarsi largely or entirely black with black bristles; fore and middle tarsi with basal tarsomere mostly yellow, narrow apex black; only 2–3 yellow bristles present.

Abdomen: Apical margin of tergite 7 with 2 midlateral black bristles, 1 of these contrastingly long and stout. Tergite 8 shiny, jet black, apical corner somewhat angular, oblique; a long, midlateral, black bristles present posterior to apical margin and 2–3 shorter bristles more basally, these black or yellowish. Tergite 9 dorsally with narrow base sclerotized, less than one-fifth as long as cercus, corners contrastingly wide, extending around base of ventral lamella forming a wide sclerotized bridge in dry specimens. Cercus unusually narrow with apex slightly emarginate. Ventral lamella narrowly sclerotized along inner margin. Sternites 5–7 with 3–4 long, stout bristles laterally, mostly yellowish, those in apical corner of sternite 7 black and contrastingly long. Sternite 8 shiny jet black with a transverse row of yellow setae and bristles; 4 bristles medially, darker, light amber, contrastingly long and thick, extending forward to subapex of ventral lamella. Spermathecae obovate; ducts long and thin with bases of ducts separate, each originating from very short, common duct between base of arms of genital fork. Genital fork largely membranous, apical third of each arm, narrow, slightly sclerotized.

Types.—Holotype ♂, BAHAMAS: Eleuthera, Rainbow Bay, 21.×.85, J. R. Wiley (FSCA). Allotype ♀, same data as holotype except: 29.vi-6.vii.1990, J. R. & S. C. Wiley (FSCA). Paratype: 1 ♂, same data as holotype (FSCA); 1 ♂, BWI, Nassau, 3.xii.61, N. A. Roeff (USNM).

Etymology.—Latin *mariae*, for Mary, in memory of a loving, devoted wife and mother.

Remarks.—*Ommatius mariae* and *O. hanebrinki* (holotype and allotype, USNM; paratypes, AMNH, TUMZ; others CMNH/FSCA) are very similar species, almost identical in general habitatus, and differ markedly from other known New World species. They are readily separated from each other by the uniquely modified structures of the terminalia. In addition, the whitish ocellar setae and the flat, mostly brown bristles with round tips, clustered on a raised, posterior tubercle on the hind femora further characterize the male. In *O. hanebrinki*, these bristles are flatter, yellow, and distributed more in a linear row on a lower tubercle. The anterior surface of all tibiae in the female of *O. mariae* is mostly black whereas the tibiae are yellow with narrow dark apices in *O. hanebrinki*. The basal tarsomere of the hind tarsus is black in *O. mariae* whereas it is much lighter, brownish yellow in *O. hanebrinki*. Furthermore, in *O. mariae* segment 8 is shiny, jet black; tergite 8 has scattered bristly setae dorsally and stout bristles laterally, none are present along the apical margin. Sternite 8 medially has a transverse row of numerous, short setae and four contrastingly long bristles. In *O. hanebrinki*, segment 8 is much lighter brown; tergite 8 has mixed bristly and abundant, short, recumbent setae dorsally, and several, stout bristles are present along the apical margin. The transverse row of vestiture on sternite 8 medially consists of 8–10 stout bristles and sparse, short setae.

Ommatius hanebrinki (1983), *O. hispidus* Scarbrough (1985a), and *O. mariae* are similar in several regards, and differ from all known species from Cuba and the Bahamas. This group, i.e., *hanebrinki* group, is readily recognized by the following combination of characters of the male: 1) Strongly inflated hind femur; 2) a series of flat bristles with rounded tips on the posterior margin of the hind femur; 3) an api-

cally clubbed [*hanebrinki* and *mariae*] or long digitate process [*hispidus*] on the hind tibia; 4) the unusually long, blade-like processes of the gonocoxite in males; 5) the unusually stout bristles on the apical abdominal segments; and 6) the dorsally membranous tergite 9 which wraps below the bases of the ventral lamella, and the unusually strongly, apically pointed sternite 8 with stout bristles posteriorly in the female.

Ommatius lineolatus Scarbrough

Ommatius lineolatus Scarbrough 1988: 90–94. ♂ Holotype, ♀ allotype. Type locality Cuba (USNM).

Specimens examined.—BAHAMAS: 1 ♀ of *O. lineolatus*, Bimini (FSCA); 1 ♂ of *O. lineolatus*, Long Island (FSCA). CUBA: Holotype ♂ and ♀ of *O. lineolatus* Scarbrough (USNM).

Remarks.—*Ommatius lineolatus*, a Cuban species, is reported here from Long Island in the Bahama Islands and increases the number of species of *Ommatius* to 6 from this region. The species is readily recognized by its small size (5–6 mm), yellowish brown color of the legs, 6 ventral setae distributed the length of the antennal style, and combined characters of the terminalia. It is otherwise quite similar to *O. abana* (types series, AMNH), and may prove eventually to be that species as more material is located and studied. This type series of *O. abana* consist of only 3 females, i.e., males are unknown. The species is large (9 mm), the body is jet black, the legs are amber or reddish with black markings, and the style has only four long setae near the tip.

Ommatius dignus Scarbrough,
new name

Ommatius dimidiatus Scarbrough 1985b: 647–650. Figs. 9–14 (primary junior homonym of *Ommatius dimidiatus* Macquart 1850: 394, Asilidae); (types GPAC).

The binomen *Ommatius dimidiatus* Macquart (Macquart 1850) was first used for a

species in the Australian region. It is now reported from Tasmania and Australia (Daniels 1989). Later (Scarborough 1985b), the same binomen was applied to a new Neotropical species from Dominica, Lucia, and Martinique in the Lesser Antilles. I propose *dignus* (L, meaning worthy or fit) as a new replacement name.

Ommatius fimbrillus Scarbrough,
new name

Ommatius fimbriatus Scarbrough and Poinar 1992: 13–16. Figs 1–4 (primary junior homonym of *Ommatius fimbriatus* Hardy 1949: 301, Asilidae); (types GPAC).

Unfortunately, Scarbrough and Poinar (1992) were unaware that the binomen *Ommatius fimbriatus* had already been used for a species of an asilid fly from Australia when they used it for a fossil species in Dominican amber. I propose *fimbrillus* (L, meaning a fringe) as a new replacement name for it.

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LITERATURE CITED

- Curran, C. H. 1953. The Asilidae and Mydidae of the Bimini Islands, Bahamas, British West Indies (Diptera). American Museum Novitates 1644: 5–6.
Daniels, G. 1989. Family Asilidae, pp. 326–349. In Evenhuis, N. L., ed., Catalog of the Diptera of the Australasian and Oceanian Regions. Bishop Museum Press & E. J. Brill, 1,155 pp.
Hardy, G. H. H. 1949. Miscellaneous notes on Australia

- lian Diptera. XIV. Venation and other notes. Proceedings of the Linnean Society of New South Wales 73(1948): 298-303.
- Macquart, P. J. M. 1850. Diptères exotiques nouveaux ou peu connus. 4. Supplément. - Mémoires de la Société Royale des Sciences, de l'Agriculture et des Artes (1849): 309-479, 14 plates. (365-400, plates. 6-9). Lille.
- McAlpine, J. F. 1981. Morphology and terminology—Adults, pp. 9-63. *In* McAlpine, J. F. et al., Manual of Nearctic Diptera, Vol. 1 Ottawa. Monograph No. 28, 674 pp.
- Scarborough, A. G. 1985a. New *Ommatius* Wiedemann (Diptera: Asilidae) from Cuba and the Bahamas. Journal of the New York Entomological Society 93: 1226-1239.
- . 1985b. *Ommatius* (Diptera: Asilidae) in the lesser Antilles. Proceedings of the Entomological Society of Washington 87(3): 641-655.
- . 1988. New robber flies (Diptera: Asilidae) from Mayaguana Island, Bahamas, and Cuba. Entomological News 99(2): 90-94.
- . 1997. New and old species of *Ommatius* Wiedemann (Diptera: Asilidae) from Hispaniola. Insecta Mundi 11: 9-24.
- Scarborough, A. G. and R. Rutkauskas. 1983. A new species of *Ommatius* Wiedemann (Diptera: Asilidae) from San Salvador, the Bahamas. Proceedings of the Entomological Society of Washington 85: 144-151.
- Scarborough, A. G. and George O. Poinar. 1992. Upper Eocene robber flies of the genus *Ommatius* (Diptera: Asilidae) in Dominican Amber Insecta Mundi. 6: 13-18.